variety of types, but does provide interesting clues to the biology of the lesions observed. In point of fact, in several instances, specific intracellular organelles support evidence of a specific tumor type, those derived from the neurosecretory endothelium are a classic example. Their review is extensive, their pictures great in number and their references, contemporary. The use of tabulation to indicate specific structures that may or may not appear in different tumor types will aid those who wish to separate the information available, and aid and help in diagnosis. For a pathologist without access to an electron microscope, this is an interesting travelogue through abnormal cell structures. For a pathologist with an available electron microscope, this text provides a reference source in which to develop information necessary to separate tumors with which he may be confronted.

A potential omission is a critical discussion of fixation and embedding, and the added data derived from histochemistry and cytochemistry that might aid in diagnosis of specific lesions. Another particular area that would require some addition is a better description of available information concerning the presence of viruses in these neoplastic cells. This is dismissed very briefly in the introductory chapters.

The book also suffers from lack of attention to freeze-fracture replication in general and the application of freeze-fracture for cell junction identification in particular. In attempting to distinguish mesenchymal and epithelial tumors, the identification of tight junctions (zonelae occludentes) clearly indicates the epithelial origin of the neoplasm. In distinguishing poorly differentiated hematopoietic or lymphoid neoplasms from solid-connective tissue tumors, the existence of gap (communicative) junctions clearly supports the latter genesis.

Not all micrographs are of similar quality, but in general they are first rate. There are some whose size is sufficiently small and whose magnification is sufficiently low so that the details of structure are hard to find. The labeling in some micrographs also leaves something to be desired, and the use of dark letters on dark background requires a search for the label. The addition of ultrastructural examinations as an investigative tool is not stressed, in fact, it is partially dismissed in the text. In spite of these shortcomings, the authors are to be credited for putting together a remarkable text with a wealth of information, not only for those active in diagnosis but for those who may be involved in caring for patients whose diseases are specified by these ultrastructural techniques.

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PAEDIATRIC CARDIOLOGY—Volume 4: Proceedings of the World Congress of Paediatric Cardiology held in London in 1980—Edited by M. J. Godman, MB, ChB(Edin), FRCP(Edin); Foreword by Fergus J. Macartney, MB, BChir, FRCP, and Jane Somerville, MD, MB, BS, FRCP. Churchill Livingstone, Inc., 19 West 44th St., New York, NY (10036), 1981. 788 pages, $79.00.

This book contains the Proceedings of the World Congress of Paediatric Cardiology held in London in 1980. The following major topics are discussed: etiology and pathogenesis of congenital heart disease, clinical and experimental; growth and remodeling of the pulmonary circulation in congenital heart disease; disorder and dysfunction of the myocardium: a changing spectrum; simple approach to the diagnosis and naming of complex congenital heart disease; today's management of the newborn with heart disease; new methods of investigation; computers in pediatric cardiology; natural and unnatural history of congenital heart disease; advances in pediatric cardiac surgery; surgery for complex congenital heart disease; management of the child after cardiac surgery; fate of apparently successfully treated survivors of congenital heart disease; child destined for adult heart disease—potential for prevention; geographic heart disease; cardiac involvement in general pediatric illness; problems in congenital heart disease—today and tomorrow.

As is the case with most if not all publications that represent proceedings of meetings, the style (and quality) varies considerably from one chapter to another. Much, probably most, of the material has been published elsewhere in some form. The quality of the illustrations varies from excellent to poor (for example, the electrocardiogram on page 241 has a number of extraneous blots and marks on it and should not have been published). Some of the angiocardiograms are blurred. A number of mistakes are present in the bibliographies.

Despite these minor criticisms, this book will be of interest to pediatric cardiologists and to cardiac surgeons. This should not be (nor was it meant to be) a standard reference text. While it does not substitute for an advanced textbook of pediatric cardiology and is quite expensive, it should be considered for the library of pediatric cardiologists—as a luxury, not a necessity.

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ANNUAL REVIEW OF NUTRITION—Volume 1—William J. Darby, Nutrition Foundation, Editor; Harry P. Broquist and Robert E. Olson, St. Louis University, Associate Editors. Annual Reviews Inc., 4139 El Camino Way, Palo Alto, CA (94306), 1981. 510 pages, $20.00 (USA), $21.00 (elsewhere).

Publications in basic and applied nutrition appear at an ever increasing rate, yet the *Annual Review of Biochemistry* last presented a separate treatment of nutrition in 1964. Annual Reviews has now developed this new series to meet the need for critical review of current nutritional research topics.

To that welcome end, the editors have selected for inclusion in the first volume subjects that range from ethical issues in the world food problem to the use of germ-free animals in nutritional studies. Among the 18 articles are 3 that concern iron (assimilation systems in microorganisms, dietary bioavailability and bioavailability from milk), two on nonessential nutrients (choline and taurine), two on food toxicology and two on health effects of various trace elements in the water supply.

Most of the chapters focus on basic nutritional research in laboratory animals or bacteria, with scant attention paid to applied clinical aspects. Thus, the articles on flavoproteins and carotenoids describe biochemical enzyme mechanisms and methods of analysis but scarcely mention the role of the vitamins in health and disease. The exciting current research on the role of carotenes and vitamin A in cell differentiation and development (and, perhaps, in cancer prevention) would seem of greater interest to the general reader.

The few articles that do emphasize clinical nutrition, however, are especially worthwhile. The review of fructose nutrition by Wang and van Eys includes an excellent critical evaluation of the use and misuse of this sugar in diabetes care. Rothwell and Stock take special pains to explain why their studies of weight control by increased energy expenditure in animal model systems cannot be applied easily to humans.

Despite these and other important exceptions, the first volume of *Annual Review of Nutrition* is most likely to

interest academic nutritionists. Perhaps the editors will select more applied topics for future volumes. Until they do, continue to consult Annual Review of Medicine (and other sources) for the latest word on nutrition in clinical practice.

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PHYSICIAN'S HANDBOOK—Twentieth Edition—Marcus A. Krupp, MD; Lawrence M. Tierney, Jr, MD; Ernest Jawetz, MD, PhD; Robert L. Roe, MD, and Carlos A. Camargo, MD. Lange Medical Publications, Drawer L, Los Altos, CA (94022), 1982. 774 pages, $12.00.

Krupp's *Physician's Handbook* was introduced in 1941. It has been a widely read smorgasbord of quick reference for anyone seeing patients with general problems. I read it in medical school, reread it in residency and continue to read it as a practicing family physician. It occupies a venerable place in the ready-reference section for the office.

The book begins with a comprehensive discussion of the emergency medical examination and then has an outline for basic history taking and physical examination. This is especially valuable for medical students who wonder, "Have I missed anything?"

Laboratory evaluation is comprehensively discussed in 250 cogent pages. This is followed by a further distillation of material on vitamins, fluid and electrolyte balance, and oxygen and respiratory therapy.

An especially valuable table is that showing the current clinical uses of radioactive isotopes. Other tables, charts and illustrations are accurate, well-conceived and clear.

A surprising inclusion is the discussion on medical genetics. I don't remember this existing when I was in medical school but it has certainly become an important area to recognize for family physicians.

Who will read this book? Medical students, residents in family practice, paraprofessionals and midlevel practitioners will find it very valuable. Also, anyone who has read earlier editions in the past will find this new one readable as well as filling the need for immediate knowledge.

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WILLIS'S OXFORD CASEBOOK (1650-52)—Introduced and edited by Kenneth Dewhurst, TD, MD, DPhil, FRCPsych. Sandford Publications, Manor House, Sandford-on-Thames, Oxford OX4 4YN, England, 1981. 199 pages, 12 English Pounds, limited to 750 copies.

For those many physicians who live under the impression that medical history is composed of biographies, hero worship and anecdotes about several selected great doctors, this book will be a delightful revelation because it represents the essence of what the history of medicine should be. Needless to say, there is scarcely any physician today who is not familiar with the name of Thomas Willis, father or founder of neurology, and the description of his famous "circle." It is less likely though that physicians nowadays are familiar with the fact that Thomas Willis had an extensive and general medical practice and saw and treated many patients with a vast variety of afflictions. These included respiratory diseases, gastrointestinal disturbances, kidney disease and stones, venereal diseases and various forms of arthritis, gout and rheumatism.

Dr. Dewhurst who studied and published *Thomas Willis's Oxford Casebook* did an inspired job in deciphering and transcribing Willis's detailed notes which he dashed down in the uneven rhythm of his carriage, each time he left the house of a patient. Judging from the reproduction of one such page from *Willis's Casebook,* Dr. Dewhurst's familiarity with Willis's handwriting and mode of thinking must have enabled him to read and anticipate information that would have been illegible to most others.

From the *Casebook* we learn that Thomas Willis followed the medical practices of his day: he bled his patients, but generally he only "took a little blood," he gave them herbal medications, including opium and laudanum. In contrast to many physicians of the past Willis gave his prognosis very frankly, and often too pessimistically, so as to allow his patients the time to see their clergymen, and to settle their worldly affairs.

Of special interest is Dr. Dewhurst's "Summary of Willis's Casebook" during the years of his practice at Oxford 1650-1652. During this period he evidently was very generous in making housecalls; he saw 50 patients, many of whom he visited repeatedly, 20 of whom were men, 22 women and 8 children.

Willis's specialty distribution ranged over the various branches of medicine, including dermatology and venereal disease, and contagious diseases, including all the fevers that were then endemic or epidemic. Willis also operated on patients and saw a great variety of psychiatric patients. The radius of distance of his practice extended as far as 25 to 57 miles, although most of his patients were located between 6 to 16 miles away from his home base.

On the whole, this book presents an intimate and thorough insight into 17th century medical practice; it also contains a chronological outline of Willis's life and career. In addition, there is an excellent biographical sketch of Willis.

The book concludes with a brilliant "Summary and Conclusions," which contain the essential facts of the life and work of the "founder of neurology."

I can scarcely think of anyone in medicine, medical history or the auxiliary professions to whom this book would not be of value and abiding interest.

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ANNUAL REVIEW OF NEUROSCIENCE—Volume 5, 1982—Editor: W. Maxwell Cowan, MD; Associate Editors: Zach W. Hall, PhD, and Eric R. Kandel, MD. Annual Reviews, Inc., 4139 El Camino Way, Palo Alto, CA (94306), 1982. 392 pages, $22.00 (USA), $25.00 (elsewhere).

The fifth volume in this series contains articles of interest to both practicing physicians and basic neuroscientists. This is not new; previous editions have been similarly broad in scope. However, this volume also contains a symposium, from the Society for Neuroscience, on the scientific origins of modern neuroscience. This symposium is of more than passing interest to students of neuroscience.

Two articles in this volume are directly useful to clinical practitioners. Brady reviews the classification, clinical features and biochemistry of inherited metabolic storage disorders. This article also contains an interesting preview of potential therapies for these illnesses. McKhann reviews the pathophysiology of multiple sclerosis, with emphasis on immunopathology.

There are several articles in this volume which are of interest to basic neuroscientists. Iggo and Andres review current ideas about the morphology and function of cutaneous receptors. Two articles review the physiology of joint and muscle proprioception, with a historical tip of the hat to Sherrington. Cerebellar physiology and its